CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.14/KRIDL/BC/Shape.T/2016-17 16.01.2017

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to 1st Main, 6th A Cross and other cross roads at Manjunatha Nagar in Bagalagunte in Ward No.14, T. Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/468/2016-17 Dated: 22.12.2016
* Sample ID	:	Hot mix plant, Bangalore
Technical Reference	:	IS : 2386(Part -1)-1963 (RA-2011)
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	16.01.2017

Sl.No.	Description	Result
1	Flakiness Index	13.85%
2	Elongation Index	13.25%
3	Combined Flakiness & Elongation Index	27.10%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Flakiness & Elongation Index for Bituminous Concrete is 30%

Note:

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⇒Any Query regarding the report must be reported within 30 days from the date of testing.

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#23/14, 7th Cross. 3rd Stage 4th Block,
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Basaveshwaranagar, Bangalore-560 079.

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಟಿ.ದಾಸರಹಳ್ಳಿ ಉಪ-ವಿಭಾಗ
ಬಾಗಲಗುಂಟೆ, ಬಿಬಿಎಂಪಿ
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TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
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* Sample ID	:	Hot mix plant, Bangalore
Technical Reference	:	IS : 2386(Part -1)-1963 (RA-2011)
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	16.01.2017

Sl.No.	Description	Result
1	Flakiness Index	11.23%
2	Elongation Index	13.65%
3	Combined Flakiness & Elongation Index	24.88%

*Information is furnished by the Customer/Representative.

Civil-Tech Consultants & Engineers Bangalore

Comments:

→ Maximum allowable Flakiness & Elongation Index for Bituminous Concrete is 30%

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TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
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* Reference	:	BBMP/DZ/AEE/TDSD/PR/468/2016-17 Dated: 22.12.2016
* Sample ID	:	Hot mix plant, Bangalore
Technical Reference	:	IS : 2386(Part -1)-1963 (RA-2011)
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	16.01.2017

Sl.No.	Description	Result
1	Flakiness Index	12.39%
2	Elongation Index	13.60%
3	Combined Flakiness & Elongation Index	25.99%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Flakiness & Elongation Index for Bituminous Concrete is 30%

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Job No.: CTCE/BBMP/W.No.14/KRIDL/BC/Stripping/2016-17 18.01.2017

TEST REPORT ON STRIPPING VALUEOF ROAD AGGREGATES (STATIC IMMERSION TEST)

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to 1st Main, 6th A Cross and other cross roads at Manjunatha Nagar in Bagalagunte in Ward No.14, T. Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/468/2016-17 Dated: 22.12.2016
Technical Reference	:	IS: 6241
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	18.01.2017

Type of binder : 60/70
Percentage of binder used : 5.00% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10.00 g
Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	3.2	3.30	96.70
2	3.3		
3	3.4		

*Information is furnished by the Customer/Representative.

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Comments:

→ Minimum allowable Aggregate retained coating for Bituminous Concrete is 95%

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Job No.: CTCE/BBMP/W.No.14/KRIDL/BC/Sp_Wa/2016-17 18.01.2017

TEST REEPORT ON SPECIFIC GRAVITY AND WATER ABSORPTION

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to 1st Main, 6th A Cross and other cross roads at Manjunatha Nagar in Bagalagunte in Ward No.14, T. Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/468/2016-17 Dated: 22.12.2016
* Sample ID	:	Hot mix plant, Bangalore
Technical Reference	:	IS : 2386(Part -3)-1963 (RA-2011)
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	18.01.2017

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2001	2002	2003	
2	Weight of basket suspended in water	W_2 g	755	755	755	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1239	1238	1248	
4	Weight of saturated surface dry aggregate in air	W_3 g	2018	2019	2020	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	779	781	772	
6	Weight of oven dried aggregate	W_4 g	2005	2006	2007	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.574	2.569	2.600	2.581
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.617	2.612	2.644	2.625
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.65%	0.65%	0.65%	0.65%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Water absorption value for Bituminous Concrete is 2.0%

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Technical Reference	:	IS : 2386(Part -3)-1963 (RA-2011)
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	18.01.2017

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